Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of:	)	
	)	
Advanced Methods to Target and Eliminate Unlawful Robocalls	)	CG Docket No. 17-59
	)	
	)	
Call Authentication Trust Anchor	)	WC Docket No. 17-97

COMMENTS OF TRANSACTION NETWORK SERVICES, INC.

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SUMMARY

Transaction Network Services, Inc. ("TNS"), by its attorneys, hereby provides these comments to assist the Bureau in preparing its second staff report on the implementation and effectiveness of call blocking services.

TNS is an industry leading call analytics solution that uses cross-carrier, real-time call events combined with crowd-sourced data to create accurate and comprehensive reputation profiles to differentiate legitimate users of telecommunications services from abusive, fraudulent and unlawful users. TNS works closely with its carrier partners to implement solutions to improve the call experience for customers. Through a combination of robust analytics inputs and greater trust and authentication in the telecommunications network, TNS believes that the industry has made material progress in reducing illegal and scam calls.

Availability of Call Blocking Tools. TNS makes Call Guardian available to all wireless, VoIP and landline service providers. TNS supports its carrier partners by making robust robocall mitigation tools easily available and giving carriers the flexibility to adjust the tools to their customers' needs. For example, TNS allows carriers to "adjust the dial" on the sensitivity of their call blocking services, deciding at which risk level to block calls or at which risk levels to provide alternative call handling such as sending calls directly to voicemail or providing a meaningful spam risk warning to consumers. To date, over 105 million subscribers receive call blocking and call labeling services through TNS' voice service provider customers. TNS estimates that, over the last 12 months, it and other analytics providers detected and alerted customers to **over 77 billion likely illegal or unwanted robocalls.**

Effectiveness of Call Blocking Tools. Current analytics tools are effective at identifying problematic calls. Through its analytics function, TNS has visibility into the number

of unwanted and fraudulent calls that are made. Based on TNS data, unwanted calls declined by 28% in 2020, fueled in part by disruptions from the COVID-19 pandemic but also by the increased availability and use of call blocking and screening based on reasonable call analytics.

The data show that the problem of illegal robocalls is increasingly being confined to a small number of smaller carriers. The percentage of high-risk calls originating from non-Tier 1 resources increased to 95% in 2020, an increase of 3% compared to 2019. In addition, while unwanted calls to wireless numbers declined, nearly twice as many unwanted calls are directed to wireline numbers compared to wireless numbers. Meanwhile, scammers' tactics are changing as well. Spoofing of legitimate enterprise and government numbers – particularly toll-free numbers – increased in 2020. Toll-free originated calls now account for more than one-third (35%) of the high-risk volume. Neighbor spoofing has declined, but appears to be being replaced by "near-neighbor" spoofing, where only the first three digits of the called party's number are mirrored.

Impact of the FCC's Actions. TNS believes that the FCC's leadership in promoting the use of reasonable call analytics and its adoption of safe harbors to protect against liability for inadvertent blocking are key factors in the strides that have been made so far in protecting consumers from harmful calls.

TNS also believes that the Commission's measured approach to caller redress procedures has increased protections to subscribers from unwanted calls. TNS supports a transparent and robust redress process for claims of improper blocking. It provides a variety of redress mechanisms today and is working with voice service providers and callers to develop best practices for the redress process.

Impact on 911 Services and Public Safety. TNS is not aware of any instances where its analytics resulted in the blocking of calls to 911 or to emergency services agencies. Moreover, TNS has taken numerous steps over the past year to compile a database of telephone numbers used by public safety agencies in an effort to ensure that outbound calls by PSAPs are not inadvertently blocked.

TNS also has participated in outreach to PSAPs to remind such callers to use a valid telephone number for outbound calls. The use of an invalid telephone number, which is a factor in identifying potential fraudulent calls, can increase the risk that the call is subjected to additional scrutiny and may lead to inadvertent blocking. TNS urges the Bureau to caution PSAPs, as it did last year, regarding the importance of using valid telephone numbers for outbound calls.

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COMMENTS OF TRANSACTION NETWORK SERVICES, INC.

Transaction Network Services, Inc. ("TNS"), by its attorneys, hereby provides comments in response to the Consumer and Governmental Affairs Bureau's request for input for its second staff report on the implementation and effectiveness of call blocking practices.[1]

I. INTRODUCTION

TNS provides global, dedicated real-time data communication networks enabling industry participants to simply and securely interact and transact with other businesses, while connecting to the data and applications they need. By combining innovation, advanced technology, experience and service excellence, TNS has delivered managed data communications solutions to service providers and enterprises on a global scale since 1991. Its

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[1] *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59 and WC Docket No. 17-97, Consumer and Governmental Affairs Bureau Seeks Input for Second Staff Report on Call Blocking, DA 21-420 (April 13, 2021) ("Public Notice"). On April 13, 2021, TNS received a request from the Consumer and Governmental Affairs Bureau asking TNS to provide updated data on call blocking from March 1, 2020 to the present and asking several specific questions regarding TNS' call blocking services. *See* Letter from G. Patrick Webre, Chief, CGB, to Mike Keegan, CEO, Transaction Network Services, Inc., April 13, 2021 ("CGB Letter Request"). These comments also respond to the Bureau's specific requests to TNS.

Wholesale Division offers a portfolio of mobile network, identity, discovery and routing solutions to enable the reliable delivery of communications world-wide.

Building upon its experience in telecommunications routing and delivery solutions, TNS has become a leading provider of call analytics services used to identify and mitigate unlawful and unwanted robocalls. TNS provides the TNS Call Guardian service, a robocall detection solution implemented by wireless carriers, broadband cable providers and VoIP providers in the United States. Collectively, TNS provides Call Guardian to over 105 million subscribers in the United States.

Call Guardian utilizes information from over 1 billion signaling transactions per day traversing the TNS signaling network and IP call routing databases in order to differentiate legitimate users of communications services from illegal and unwanted calls. Call Guardian integrates this data with numerous other industry data sources, STIR/SHAKEN parameters, and crowd-sourced data, to analyze calls in real-time and determine a Telephone Number Reputation score and category that is used by its voice service provider partners. Call Guardian creates a dynamic scoring system that considers historical reputation information and "real-time intelligence" to constantly re-assess calls, spot suspicious behavior and to keep pace with evolving tactics used by bad actors seeking to perpetrate scams and other malicious behavior.

TNS sees the reduction in unwanted and illegal robocalls as a central part of its mission. TNS works closely with its carrier partners to implement solutions to improve the call experience for customers. Through a combination of robust analytics inputs and greater trust and authentication in the telecommunications network, TNS sees significant progress in reducing illegal and scam calls over the past year.

II. AVAILABILITY OF CALL BLOCKING AND CALL SCREENING TOOLS

The first section of the *Public Notice* seeks data and other information on the availability of call-blocking tools offered to consumers.[2]

TNS provides a call analytics solution to dozens of carriers and voice service providers, who collectively serve over 105 million end users in the United States. TNS' Call Guardian service provides tools that enable our carrier partners to offer robust, real-time call blocking and call labeling to their subscribers.

TNS' Call Guardian product features several components that allow carriers and their customers flexibility in mitigating illegal and unwanted robocalls. Universal Call Blocking (UCB) protects a carrier's customers from robocalls by blocking tens of millions of illegal robocalls a month in the network before they can even ring on the customers' phones. Advanced Call Treatment (ACT) allows carriers to send likely illegal and unwanted calls to voicemail. Finally, the Advice of Risk (AoR) feature allows our carrier customers to warn subscribers about unwanted calls by displaying a spam indicator, which can be customized be each carrier, into their caller ID for suspicious calls.

TNS allows carrier partners to choose where to "set the dial" for call blocking (*e.g.*, based on high risk classification, on nuisance classification or based on particular scores assigned) and provides options for call handling (network level block, send to voicemail, complete and label, etc.) to allow its carrier partners to deploy the tools in ways that best serve their customers' needs. Moreover, these solutions can be implemented on either an opt-in or opt-out basis, and can be offered at various price points, including free to the consumer. TNS

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[2] *Public Notice* at 2.

believes that virtually all of its carrier partners offer basic call blocking tools to subscribers on a free basis, with premium level services available for a fee.

Notably, TNS research shows that subscribers prefer a solution which blocks only the high-risk calls and allows the subscriber to choose how to handle other calls. In TNS' research, less than 40% of wireless subscribers want their carrier or phone manufacturer to automatically block all robocalls calls primarily because they would have no knowledge a caller had tried to contact them. However, almost 80% of consumers want their carrier to automatically block high-risk calls (those likely to be scams or fraud) while letting others pass through so they can choose whether to answer, send to voicemail or block. At the same time, most consumers still want to utilize voicemail for call screening. Almost 70% of consumers want lower-risk calls sent to voicemail, letting them control which messages to return.[3]

For these reasons, TNS typically recommends to its carrier customers that they block and/or divert only calls that are deemed to be high-risk calls, i.e., calls that are most likely to be illegal scams or fraud. This category includes the four types of calls for which the FCC authorized blocking in 2017: (1) calls placed using invalid telephone numbers (000-000-0000, etc.), (2) calls placed using TNs that have not been allocated to any carrier, (3) calls placed using TNs that have been allocated to a carrier but not assigned, and (4) calls associate with TNs that the assigned subscriber requested be placed on a Do-Not-Originate (DNO) list.[4] TNS also rates as high-risk a number of calls that have been found to be illegal or are highly likely to be illegal

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3 *See* TNS 2021 Robocall Investigation Report, Sixth Edition, at 23 (March 2021).

4 *See Advanced Methods to Target and Eliminate Unlawful Robocalls*, Report and Order, FCC 17-151 (rel. Nov. 17, 2017) ("2017 Order").

based on our proprietary machine learning algorithm. For the remainder of calls, TNS recommends delivery to subscribers with additional descriptive information where appropriate.

The lesson for policymakers in TNS' view is that not all robocalls are created equal. Call blocking and call handling solutions cannot and should not be "one size fits all." Customers instead seem to prefer more choice and more control over inbound calls. Some consumers will prefer to screen calls themselves, or will prefer to send calls to voicemail in order to determine whether to return a call. Some will want the highest risk calls to be blocked but want to make decisions on the remainder of calls. Therefore, the Commission rightly has permitted but not required call blocking, protected by defined safe harbors for certain types of blocking services, and has largely allowed the industry to develop call labeling approaches that give meaningful information to subscribers regarding the nature and origin of a call. Voice service providers remain in the best position to determine which solutions and what options to offer to their customers.

With respect to development of call blocking and screening services over the last year,[5] TNS is constantly improving its machine learning algorithm to identify problematic calls. In June, 2019, the Commission rightly observed that "rigid blocking rules" can be counter-productive and "could impede the ability of voice service providers to develop dynamic blocking schemes that evolve with calling patterns."[6] This prediction has proven to be wise. Indeed, TNS

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5 *Public Notice* at 2 (asking whether new tools are under development and changes in call blocking practices).

6 *Advanced Methods to Target and Eliminate Unlawful Robocalls,* CG Docket No. 17-59 and WC Docket No. 17-97, Declaratory Ruling and Third Further Notice of Proposed Rulemaking, 34 FCC Rcd 4876, ¶ 34 (June 7, 2019) (also noting that "a diversity of approaches would create a more challenging operating environment for illegal robocallers." (quoting USTelecom Comments)) ("Call Blocking Declaratory Ruling").

regularly sees changes in scam artists' tactics and must adjust its algorithm to reflect the new tactics. For example, neighbor spoofing declined in 2020 compared to 2019 levels, but "near-neighbor spoofing" (i.e., the use on only the same first three digits) increased by 17% in the same period.[7] Further, as STIR/SHAKEN implementation has progressed, TNS incorporates additional information provided by the call attestations to inform the evaluation of inbound calls. TNS found that more than one-third of the total calls it analyzed in December 2020 were self-signed, up from 21% in the beginning of the year.[8]

III. EFFECTIVENESS OF CALL BLOCKING AND CALL SCREENING TOOLS

The second section of the *Public Notice* seeks data and other information on the effectiveness of call-blocking tools offered to consumers.[9] TNS data shows that call blocking and mitigation tools have been highly effective in addressing the robocall problem in the past year.

TNS estimates that, over the last 12 months, it and other analytics providers detected and alerted customers to **over 77 billion likely illegal and unwanted robocalls**.[10] At the same time, the overall volume of unwanted calls declined by 28% in 2020.[11] Some of this decline likely is attributable to disruptions in call centers caused by the COVID-19 pandemic, but the decline also is attributable to the expansion of call blocking by voice service providers

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7 *TNS 2021 Robocall Blocking Report*, at 4.

8 *Id.*

9 *Public Notice* at 2.

10 *TNS 2021 Robocall Blocking Report*, at 4.

11 *Id.*

and the Commission's enforcement activities targeting the most egregious scammers and the VoIP gateways through which the calls originated.

The nature and characteristics of unwanted calls also changed in 2020. TNS publishes a high level overview of robocalling trends in its semi-annual Robocall Report. The 2021 Robocall Report, released in March 2021, tracked calling trends over the second half of 2020. Some of the most significant findings of that Report are the following:

- Tier-1 carriers are a small and declining source of illegal robocalls. Almost 95% of high-risk calls originate from non-Tier-1 telephone resources, up 3% from last year.
- While there has been significant progress in reducing illegal robocalls to wireless numbers, such calls to wireline numbers continue to be a problem. More than a third of the total calls (37%) to wireline telephone numbers are unwanted compared to 17% for wireless telephone numbers. In addition, the trend of unwanted calls to wireline has increased as a percentage of unwanted calls.
- Spoofing of legitimate enterprise and government entity toll-free numbers continues to increase at a growing rate. Toll-free originated calls now account for more than one-third (35%) of the high-risk call volume, up from 28% in second half of 2019.
- Neighbor spoofing continues to decline. Use of the same area code and prefix in a spoofed call saw a decrease of 43% on a per subscriber basis from 2019 to 2020, while use of the same metropolitan area code to call a subscriber (near-neighbor spoofing) has increased 17% in the same period.

With respect to the consumer side, TNS continues to receive crowd-sourced feedback from recipients of calls. End-users of TNS services can provide direct feedback through the mobile device regarding calls that they receive. When end-users provide this

feedback, they classify about 75% of the calls as either "spam" or "scam-fraud." Only about 15% are marked as telemarketing-sales. These rates have been consistent from 2018 through the first half of 2020. However, for 2020, a greater percentage of calls are being classified as scam-fraud (44% in 2020 vs. 35% previously).[12] This suggests that more calls are seen as pernicious by callers as compared to a mere nuisance.

Conversely, the data continue to show that very few end-users report that TNS incorrectly marked a call as a negative call. TNS sees very little evidence in the crowd-sourced data of "false positives" (i.e., calls rated negatively that should be scored positively). Less than 0.2% (0.002) of high-risk originating numbers are reported as having falsely been labeled as negative calls. This rate continues to be the industry's lowest and confirms the accuracy of analytics-sourced call handling.

Finally, the Bureau letter to TNS asks whether TNS provides immediate notification to callers when calls are blocked and, if so, how. In response, TNS confirms that for IP calls, it provides SIP notification to the upstream carrier of call blocking. TNS uses SIP code 603 or 607 to provide notifications.[13] TNS does not yet provide notification for TDM calls.

IV. IMPACT OF FCC ACTIONS

The third section of the *Public Notice* seeks information about how the industry has responded to the FCC's orders to target and eliminate unlawful robocalls.[14] With respect to

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12 *2021 TNS Robocall Report*, at 19.

13 In response to the December 2020 Order requiring per-call notification of blocking, TNS is developing support for notification via SIP code 608 instead of 603. *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Fourth Report and Order, 35 FCC Rcd 15221 (2020).

14 *Public Notice* at 2-3.

the implementation of call blocking tools, TNS refers the Commission to previous sections of these comments, which discuss the availability of call blocking tools, the use of STIR/SHAKEN information and the impact that the tools have had on unwanted calls. TNS believes that the FCC's leadership in promoting the use of reasonable call analytics and its adoption of safe harbors to protect against liability for inadvertent blocking are key factors in the strides that have been made so far.

TNS also believes that the Commission's measured approach to caller redress procedures has increased protections to subscribers from unwanted calls. TNS supports a transparent and robust redress process for claims of improper blocking. As noted previously, TNS provides a free mechanism for call originators and enterprises to provide feedback into its reputation scoring. This portal is easily accessed at www.reportarobocall.com. This site can be used by call originators and enterprises to identify potential inaccuracies in analytics data and to engage with TNS on how their numbers are scored. TNS works with enterprises to provide information, for free, so that they may understand their telephone number reputation score and improve scoring by conforming to behavior less likely to trigger negative labeling by our analytics engines.

TNS also works with voice service providers and the analytics industry to provide easy and effective redress processes. In addition to TNS' reportarobocall.com website and carrier-branded websites used by TNS' customers, TNS and other analytics companies created www.freecallregistry.com as a single source for callers to register their numbers with all three major analytics providers at once.

On all sites, TNS provides a response to call blocking redress requests within 24 hours and provides feedback on most call labeling requests within 2 business days. Moreover,

TNS is a participant in USTelecom Blocking and Labeling Working Group, which brings together over 20 participants representing a variety of service providers, analytics engines and vendors, callers, and trade organizations to discuss and develop consensus solutions for blocking and labeling transparency, redress and other robocall practices. The Working Group is seeking consensus on a set of best practices for the redress process to address inadvertent blocking or mislabeling of legitimate wanted calls.

In addition, TNS offers fee-based services that may be useful to registered enterprise customers in managing their call completion rates. Registered enterprises may subscribe to alerts that inform them when the telephone number becomes classified as a spammer, spoofer, scammer, or robocaller. TNS works with enterprises to avoid mislabeling, prevent damage to their brands, and improve call answer rates. TNS finds this process useful and productive. Many times, both TNS and the call originator learn valuable information that promote positive telephone interactions in the future.

Importantly, call originators can do a lot to improve how their calls are perceived by consumers and, in turn, how they are scored. TNS recommends a few best practices for call originators:

- Separate numbers for separate purposes. Do not use a number for types of calls likely to generate more negative feedback (such as collection calls) and also for other purposes.
- Use a consistent, real, assigned number for each campaign or single purpose. Failing to display caller ID information can influence call authentication apps or analytics algorithms to flag a call as potentially suspect.
- List maintenance and scrubbing are important. Always attempt to verify numbers as valid and still associated with your customer before placing a call. Large numbers of incomplete calls can negatively affect a number's score.

- Both the number of calls made to a consumer and the time of those calls may affect scoring. In addition to adhering to federal and state laws regarding time of day restrictions, try to limit calls to a convenient time and don't bombard customers with call attempts.

- Leave voicemail messages where possible. Consumers may be screening calls but will call you back if the call if for a reason they find important.

V. IMPACT ON 911 SERVICES AND PUBLIC SAFETY

Additionally, the *Public Notice* seeks data and other information on the impact of call blocking on 911 services and public safety.[15]

TNS takes great care to ensure that its analytics do not result in the blocking of calls directed to 911 or to a public safety agency. TNS works with its carrier partners to collect information from PSAPs regarding which numbers they use for inbound emergency services. TNS places these numbers on lists to prevent the blocking of calls destined to those numbers. As of April 30, 2021, TNS is not aware of any instance where a 911 call or call to an emergency number for a PSAP has been blocked.

With respect to outbound calls from PSAPs, TNS has built a database to assist in identifying outbound numbers used by public safety entities. In partnership with its carrier customers, TNS contacted the National Emergency Number Association ("NENA"), the professional organization focused on 9-1-1 policy, technology, operations, and education issues, to explore ways that TNS can obtain information from PSAPs regarding the numbers that they use. NENA has worked with TNS to facilitate outreach to the 911 community.

In March 2020, the Bureau issued a clarification that certain calls and texts relating to the COVID-19 pandemic could qualify under the TCPA's "emergency purposes"

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15 *Public Notice* at 3.

exception to the Act's restrictions on automated messages and autodialed calls.[16] Specifically, the Bureau clarified that calls and messages (a) made by a hospital, health care provider, state or local health official, or other government official and (b) are solely informational and directly related to the imminent health or safety risk arising out of the COVID-19 outbreak are permitted under the TCPA's "emergency purposes" exception.[17] TNS compiled thousands of numbers associated with such public health entities in order to facilitate the proper transmission of COVID-19-related emergency calls. These numbers also are used to assist in identifying public safety calls outside if the COVID-19 pandemic.

Further, in some cases, TNS' carrier partners conducted outreach to PSAPs in their service territories, asking for assistance in identifying numbers that they use to originate outbound calls, such as call-back services or "reverse 911" messages. TNS and the carrier reminded PSAPs of the importance of using valid telephone numbers for such outbound calls. PSAPs that place an outbound call from an emergency services center using a number with fewer than 10 digits or a number that is not a valid NANP number run a risk that the call with be identified as potentially fraudulent. For example, since 2017, the FCC has authorized carriers to block calls originating with an invalid telephone number, such as 999-999-9999. The use of such a number is a factor TNS uses in it analytics and thus a PSAP's use of an invalid number could negatively affect the completion of the intended call. To avoid such risk, the emergency services center can send, in all instances, a valid telephone number that can receive inbound calls (even if the number differs from the number from which the call is placed). In the First Call

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16 Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991, CG Docket No. 02-278, Declaratory Ruling, DA 20-318 (CGB Mar. 20, 2020) (March 20 Declaratory Ruling)

17 March 20 Declaratory Ruling, at ¶ 7.

Blocking Report, the Bureau encouraged PSAPs to ensure that they send valid telephone numbers with their calls. TNS urges the Bureau to include a similar warning in this year's report.

VI. CONCLUSION

TNS supports the Commission's efforts to promote the development and introduction of advanced methods to combat unlawful robocalls. Through a combination of robust analytics inputs and greater trust and authentication in the telecommunications network, the industry and the FCC are making a material impact on the problem.

Respectfully submitted,

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